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PREACHING TO THE CONVERTED?

KNOWLEDGE-BASED MANAGEMENT OF HIGHER EDUCATION INSTITUTES

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ABSTRACT

Almost all absurdity of conduct arises from the imitation of those whom we cannot resemble. Samuel Johnson.

The organisational culture of higher education institutes has been described in the literature as a professional bureaucracy where change creeps in not sweeps in (Mintzberg 1996). Operating within the constraints of public sector legislation, higher education institutes typically have a largely autonomous workforce who often set their own work agendas. The organizational structure is highly compartmentalised and the difficulties involved in providing a central steering core present some unique challenges to its management. When faced with mounting external pressures for accountability, quality assurance, flexible delivery and other trends the unique culture of higher education presents significant challenges for institutional management teams. In efforts to increase the responsiveness to change they have turned to corporate sector techniques such as strategic planning, total quality management, benchmarking and others in an effort to find the silver bullet to managing higher education. The effectiveness of such efforts is largely unknown and the degree to which they are embraced by what Clark calls the '*academic heartland*' is circumspect (Clark 1996). Birnbaum refers to such non-native management programs as management fads and cites the example of Total Quality Management which was said to be used by 70% of all colleges in the United States in 1994 but by 1997 it had transpired that only a dozen or so colleges had actually implemented it as part of core operations (Birnbaum 2000).

Hitt contends that organizations in the twentieth century have evolved from having a focus on efficiency and effectiveness to learning and knowledge (Hitt 1995). At this point therefore it is not inappropriate to ask whether HEIs themselves make best use of the knowledge available to them to improve their own performance – do they qualify as knowledge-based enterprises? This paper argues that before higher education proceeds again

to imitate a knowledge based management model from the corporate sector that it pauses to take stock of its own unique strengths and weaknesses. Self study with peer review is a native management tool in higher education for quality assurance. It has stood the test of time and international scrutiny and it is generally accepted by the academic community (Van Vught and Westerheijden 1995). Moreover it represents a powerful tool for capturing, managing and disseminating the tacit knowledge of the experts within an institution. This paper reports on the results of an empirical study of three self study programs undertaken in one higher education institute over an eight year period. It investigates the relevance of self study with peer review as a tool for knowledge management in higher education and critically evaluates it with respect to the literature on knowledge based enterprises. It proposes recommendations and adaptations to the self study model which would increase its effectiveness in this area.

1 KNOWLEDGE MANAGEMENT IN HIGHER EDUCATION

Staples et al define knowledge-based enterprises as “*organisations that acquire, manipulate, integrate or otherwise employ transfer and diffuse knowledge as a substantive aspect of organisation*” (Staples et al. 2000). Higher education institutions could slip through the net of this definition however and therefore something more is required. Profit is the differentiating factor between enterprise and education. Perhaps we can refer to the management of a knowledge based organisation when referring to higher education institutions to make this distinction.

Knowledge can be categorised in a number of ways (i) general versus context-specific or (ii) individual versus collective. It can be categorised by type as (i) declarative (*know about*) (ii) procedural (*know-how*) (iii) causal (*know-why*) (iv) conditional (*know-when*) or (v) relational (*know-with*). The dynamic nature of knowledge is reflected in the a categorisation of (i) core (ii) advanced or (iii) innovative knowledge where today’s innovative knowledge becomes tomorrow’s core. Notwithstanding the dilemma of finding

appropriate definitions within which to frame this discussion one useful distinction is to differentiate *explicit* and *tacit* knowledge. Explicit knowledge can be written down, codified and readily disseminated in the form of facts – it is the academic or formal knowledge that we pass on to our students through lectures and textbooks. Tacit knowledge on the other hand is the knowledge, experience and ideas that reside within the minds of individuals and is a far more complex and subtle entity to capture. Davenport and Prusak consider knowledge to exist within people and *“be part and parcel of human complexity and unpredictability”* (Davenport and Prusak 2000). Zack contends that it is because tacit knowledge is unique to a context, difficult to imitate and expensive to generate that it is so valuable to organisations that can use it effectively (Zack 1999). This paper focuses on how the tacit knowledge of a higher education institution is managed.

2. WHAT IS KNOWLEDGE IN A HIGHER EDUCATION MANAGEMENT CONTEXT?

Davenport and Prusak note that most people consider knowledge to be broader, deeper and richer than data or information and offer the following definition of knowledge : *“...A fluid mix of framed experience, values, contextual information and expert insight that provides a framework for evaluating and incorporating new experiences and information...”*(Davenport and Prusak 2000). What then are the knowledge resources of a higher education institute? In an era where disciplinary knowledge is increasing exponentially (Clark 1996), even at undergraduate level, the knowledge resource of a HEI might include novel degree programmes in niche areas or interdisciplinary programmes which merge two fields together in unique and interesting ways. Lecturer expertise, novel curriculum design, syllabi and experience with innovative or flexible delivery methods (eg. E-learning, video conferencing) could also be considered an asset. In research intensive institutions the most obvious knowledge resource is output of its research activities. Knowledge about the internal workings of the institution and knowledge of relationships with

influential stakeholders could also be a significant resource. For example knowledge about the demographics and application and enrolment trends in the catchment area of the institution could provide significant competitive advantage. Knowledge about the effectiveness of key management processes such as quality assurance and strategic planning frameworks and others could also be considered key resources. Much of this is tacit knowledge which is difficult to codify and is dynamic and context-specific by nature.

3. WHAT MAKES THE MANAGEMENT OF HIGHER EDUCATION SPECIAL?

Engaging the academic heartland (Clark 1998) is a critical success factor in any change initiative which impacts the core activities of teaching, learning and research in a higher education institute. Bayenet notes that without a modicum of support from academic departments it would be difficult if not impossible to put strategic plans in practice (Bayenet et al., 2000). The organisational culture of higher education institutes has been described in the literature as '*professional bureaucracy*' where change creeps in not sweeps in (Mintzberg 1996). Weick describes higher education institutes as '*loosely coupled systems*' (Weick 1976) and Cohen and March are somewhat less charitable in their description of '*organised anarchies*' (Cohen and March 1974). Such cultures are characterised by highly departmentalised internal structures and a largely autonomous workforce which is often working to ill-defined or competing goals.

Pollitt and Bouckaert note that there is little doubt that organisational culture can have a significant impact on organisational performance (Pollitt and Bouckaert 2004). The unique culture of higher education presents significant challenges for institutional management teams. In efforts to increase responsiveness to change they have turned to corporate sector techniques such as strategic planning, total quality management, benchmarking and others in an effort to find the silver bullet to managing higher education. The effectiveness of such efforts is largely unknown (Lillis 2006b) and the degree to which they are embraced by what

Clark calls the ‘*academic heartland*’ is circumspect (Clark 1996). This paper argues that before higher education proceeds again to imitate a knowledge based management model from the corporate sector that it pauses to take stock of its own unique strengths and weaknesses.

O’Dell and Grayson note that people’s natural desire to learn, improve and share what they know is often thwarted by hurdles created by organisations (O’Dell and Grayson Jr. 1998). Particular barriers are posed by organisational cultures based on ‘*silo*’ behaviour. It is often said that the loyalty of academics is first to their discipline, then to their department and finally to their Institute – the inverted pyramid. An extension of this is the ‘*not invented here*’ mentality where lack of exposure to the external environment and lack of engagement with other departments in the institution can foster insular thinking and inhibit change. O’Dell and Grayson note that a common purpose and a environment supportive of transfer of knowledge is required to address this. O’Dell and Grayson also note that a culture that values personal technical expertise and knowledge creation is also a barrier. Many promotional positions in higher education explicitly reward this behavior when research performance is used as a major criteria in promotion. When the literature on knowledge management is considered with respect to the organizational culture of higher education it seems that the odds are stacked against any hope of success.

4. CONTEXT OF THE STUDY

The Institute of Technology Tralee (ITT) is a university-level institution in the southwest of Ireland with courses in Business Studies, Engineering and Science & Computing, with progression paths from Higher Certificate qualifications to Masters and Ph.D level. ITT has approximately 3,500 students and 300 academic staff. ITT is one of 13 Institutes of Technology in Ireland (IOT) which can be loosely classified as being part of the ‘non-university’ sector of Higher Education internationally. Although an identical model to

the IOTs does not exist elsewhere they exhibit some similarities with the Finnish Polytechnics, Dutch HBOs, French IUTs, German FHS and the Institutes of Technology in New Zealand.

The study investigates two self study programs undertaken in ITT during the 2000-2005 time period. The first self study program was called “Programmatic Review” (PR1) and was undertaken during the 2000/01 academic year at School (Faculty) level including the four academic departments of the School of Science & Computing. The aim of the programmatic review process is to “(a) *quality improvements are made to programmes of higher education and training and (b) programmes remain relevant to learner needs, including academic and labour market needs*”(HETAC 2002). The second self study program was called “Delegated Authority” (DA1) and was undertaken between 2002-2004 at Institutional level review for the purposes of gaining authority to make awards within the National Qualifications Framework of Ireland. The external peer review panel commended the thoroughness of both self study programs indicating that they are likely to provide good examples of self study in higher education and will provide an information rich case study. This meets the criteria of an intensity case – a case which is not unusual but from which much can be learned (Patton 2002).

It is important from the outset to clarify the author’s role in the programs. She was a member of the Institute’s management team throughout the lifetime of the programs but had no direct involvement in the programmatic review self study (PR1). She was the project manager for the Delegated Authority program (DA1) and as such every effort was made to eliminate potential bias by ensuring that both data sources and collection methods were triangulated. Where deemed necessary, a reminder of the author’s involvement with the programs will be included in the sections that follow to highlight any areas where potential bias may occur and to enable the reader to draw his/her own conclusions.

Program	Delegated Authority Self Study (DA1)	Programmatic Review 2000/01 (PR1)
<i>Scope</i>	Comprehensive review of all operations in the Institute to include governance, management and planning processes; quality assurance processes; educational and training programmes; research activities; support services and others; conditions attached to Delegated Authority & Qualifications Act.	School/Department activities including quality assurance; performance indicators; employment of graduates; national and international transfers; courses of study and syllabi; facilities; staff development; links with stakeholders; research and consultancy; delivery methodologies; adult education.
<i>Goal</i>	<p>The Qualifications Act 1999 provided the legislative framework by which Institutes could purpose Delegated Authority by adhering to criteria established by the Higher Education and Training Awards Council(HETAC 2004).</p> <p>The goal of DA1 was stated by the Institute as to ensure <i>"the Institute is granted authority to make awards, at particular levels, across all three Schools"</i>. (ITT 2004)</p>	<p>Stated by HETAC as ensuring <i>"(a) quality improvements are made to programmes of higher education and training and (b) programmes remain relevant to learner needs, including academic and labour market needs"</i>. (HETAC 2002)</p>
<i>Objectives</i>	<p>The objectives as set by the Institute were</p> <ol style="list-style-type: none"> 1. To review the effectiveness of the work undertaken since 2000 in preparation for Delegated Authority and to internally assess our state of readiness for same..... 2. To ensure the activities of each individual department were aligned to the overall Strategic Plan and to complete the implementation of the Strategic Management Framework..... 3. To identify areas for improvement in terms of concrete actions 4. To design and implement a pan-Institute framework for continuous improvement <p>(ITT 2004)</p>	<p>The objectives as set by HETAC were</p> <ol style="list-style-type: none"> 1. To review the development of the courses over the previous five years with particular regard to the achievement and improvement of quality 2. To evaluate the flexibility of the School to the changing needs of students, employers and to all stakeholders in the process 3. To review the range and mix of assessment procedures experienced by participants on the various programmes 4. To review the plans for future development and assess the viability of same (HETAC 2002) <p>Internal : Two strategic plan objectives referred to PR1 for implementation (#7.2.1, #7.2.2). Extend strategic planning methodology to School.</p>

Table 4.21 Scope, goals and objectives of the self study programs

4. SELF STUDY WITH PEER REVIEW AS A KNOWLEDGE MANAGEMENT TOOL

Self study with peer review is a native management tool in higher education for quality assurance. Kells notes that self study programs in higher education generally have three internal aims (i) to help the institution improve (ii) to incorporate ongoing research and self-analysis (iii) and to be the foundation for planning efforts (Kells 1992). Van Vught & Westerheijden found that the predominant model for quality improvement in higher education in Europe has five features (i) a meta-level agency to co-ordinate the national system (ii) regular self-evaluations by the higher education institute; (iii) external peer review (iv) a published report and (v) no direct links to funding (Van Vught and Westerheijden 1995). This model is illustrated in Figure 1. Self study with peer review can take the complexities and subtleties of context into account, it can straddle academic disciplines and it is generally accepted by the academic community. It is often cited as being most suited to the professional bureaucracy organization as it gives ownership of quality to the institution concerned (Mintzberg 1983).

The limitations of self assessment with peer review include inherent subjectivity, and often lacking clarity in the criteria being used to make decisions (Valimaa 1994). Valimaa also notes a lack of research into the ‘interpretative process’ undertaken by peers – what are the criteria used for making judgments and what is the interpretative process used.

Lillis found that in one higher education institute the self study with peer review process was very effective in leading to improvements in institutional performance (Lillis 2006a). This paper explores the potential of self study with peer review as a knowledge management tool in terms of its ability to capture, manage and disseminate the tacit knowledge of an institution.

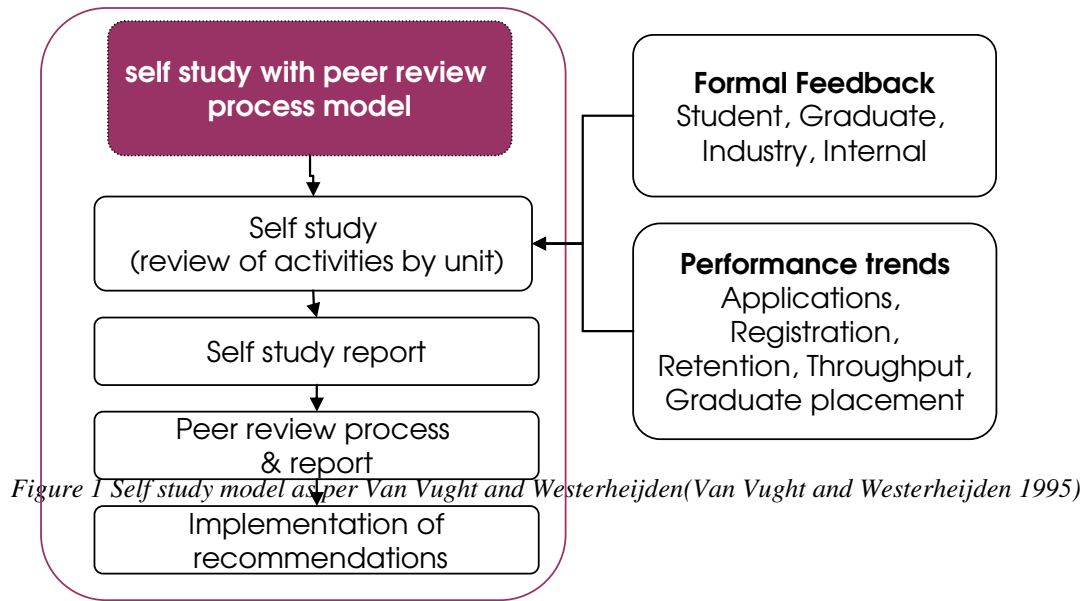


Table 1 illustrates how this the Van Vught & Westerheijden model was implemented for the Programmatic Review (PR1) and Delegated Authority (DA1) self study programs in ITT (Van Vught and Westerheijden 1995).

Ref	Program component	Programmatic Review (PR1 and PR2)	Delegated Authority (DA1)
1	<i>Review of activities</i>	Review of trends and indicators; feedback; SWOT analysis; benchmarking etc for all areas covered by scope of program. Revision of courses of study	Comprehensive review of all operations in the Institute to include governance, management and planning processes; quality assurance processes; educational and training programmes; research activities; support services and others.
2	<i>Self Study Report</i>	Self study report produced by School	Self study report produced by Institute
3	<i>Peer review process</i>	Internal and external peer review process	Internal and external peer review process
4	<i>Implementation of recommendations and other improvements identified</i>	Responsibility of School to implement relevant recommendations & improvements arising	Responsibility of Institute to implement relevant recommendations & improvements arising

Table 1 Programmatic Review and Delegated Authority self study programs as implemented in ITT

6 RESEARCH METHODOLOGY

This paper reports on part-findings from a broader study into the effectiveness of strategic planning and self-study programs in higher education in leading to improvements in institutional performance. A distinctive contribution of this study to the literature is a methodological framework for the systematic evaluation of the effectiveness of self study

programs in a higher education context. A reality-oriented post-positivist standpoint was adopted which means the results can be viewed in terms of probable causal effects and in which the reader has discretion to draw his/her own conclusions on the basis of the evidence presented. Some elements of the phenomenological philosophy have also been included to capture the complexities of the issues involved. The research design was influenced by its ability to answer the research questions posed in a reliable, valid and generalisable fashion (Patton 2002). The author acknowledges that it is difficult to generalise from a limited number of cases but generalisability was strengthened by relating results to previous findings in the literature. The results are generalisable to the network of 13 Irish Institutes of Technology and (within stated limits) to other higher education institutes that operate self study programs which fit within the Van Vught and Westerheijden model (Van Vught and Westerheijden 1995).

In the broader study, a mixed mode approach was used by mixing hypothetical-deductive reasoning with primarily qualitative methods of inquiry. The main data sources used were Institute documents including the reports of the self study programs, proceedings of the Governing Body, the Academic Council, the Senior Management Team, School boards and Course boards. Semi-structured interviews were conducted with n=17 key informants who had a major involvement with the programs. Triangulation of data sources and methods were used wherever possible to minimise potential bias and substantiate results. This paper reports on the findings from analysis of Institute documents, feedback from participants in the self study process and the outcomes of semi-structured interviews with n=17 members of the ITT management team that had the closest involvement with the programs. This paper centres on three core aspects of knowledge management :

- How is new knowledge acquired and created?
- How is knowledge captured and stored?

- How is knowledge diffused and transferred?

The self study with peer review model as implemented in IT Tralee is evaluated with respect to these questions.

7 HOW IS NEW KNOWLEDGE CREATED AND ACQUIRED?

Sources of new knowledge may be internal or external to the organisation. An *exploitation* strategy applies existing knowledge to new uses and an *exploration* strategy is where new knowledge is created/acquired (Zack 1999). Zack notes that the strategies are not mutually exclusive and organisations can pursue different approaches (e.g. internal exploitation, external exploration) (Zack 1999). Sources of knowledge in the self study model are both internal (e.g. performance indicator trends for registration, examinations, opinions of participants etc) and external (peer review recommendations, feedback from industry, graduates etc). Zack notes that the creation and/or acquisition of new knowledge can be pursued conservatively where knowledge is considered proprietary and is protected or aggressively where knowledge is viewed as an open and shared resource. The self study model can be considered aggressive in this sense as a self-evaluation report is published and external experts (often in the same field) participate in the process.

Hansen et al define a knowledge acquisition and/or creation strategy as either personalisation or codification (Hansen *et al.* 1999). Although a self study report is generally produced, it can be argued that the self study model is largely based on a personalisation strategy as knowledge is closely tied to the person/unit that developed it and is disseminated through personal communication in the form of self study team meetings and exchanges with peer review panels. This strategy is suited to an environment where innovative or unique solutions are needed and it aligns well with the scenario discussed earlier where disciplinary knowledge is increasing exponentially. Conversely it could be argued that trends in mass higher education could see a greater emphasis being placed on a codification strategies in the future. Codification is most suited to an environment where off-the-shelf solutions are required. Modularisation, internationalisation of curricula, national qualifications frameworks, professional body standards, delivery methods supported by e-learning and

international comparability on quality assurance could result in self study models which place greater emphasis on developing generic courses of study which are codified with a view to reuse by others.

Davenport and Prusak identify a number of mechanisms by which knowledge can be created and acquired (Davenport and Prusak 1998). Dedicated resources can be established to generate or reapply new knowledge within the organisation (e.g. Management Information System Office, Quality Assurance Office, Planning Office etc). People with different perspectives can be brought together in teams to tackle problems as often happens in the self study model. This is particularly important given the inverted pyramid structure and organisational culture of higher education where the workforce is made up primarily of autonomous professionals. Changes or crises in the external environment, such as responding to the needs of external accreditation bodies, can be used to reinforce the need to re-examine current activities. Other mechanisms include hiring experts for their knowledge, benchmarking activities with comparator units and to establish structures and process to enhance communication and networking.

Table 4.1 summarises how the knowledge generation strategies just discussed relate to the self study with peer review model. It also considers where evidence of the implementation of these were found in the PR1 and DA1 programs.

Characteristic	Self Study with Peer Review	Evidence found in PR1 and DA1
Exploration or Exploitation (Zack 1999)	Exploration	Created/acquired new knowledge about:- <ul style="list-style-type: none">- Indicator trends in admissions, registration, retention and examinations- Feedback from industry, graduate and students- quality of learning environment/resources- effectiveness of teaching and assessment processes- currency of curriculum- trends and issues in the environment- effectiveness of management processes- future plans
Source of knowledge (Zack 1999)	Both	Internal sources include <ul style="list-style-type: none">- the opinions of members of self study teams- internal performance indicators External sources include <ul style="list-style-type: none">- the opinions of members of peer review panels

		<ul style="list-style-type: none"> - environmental factors - industry and graduate feedback
Conservative or Aggressive (Zack 1999)	Aggressive	Exhibits some characteristics of an aggressive strategy in that internal knowledge is openly published and shared through self study, self-evaluation report and peer review processes
Codification or Personalisation (Hansen et al. 1999)	Personalisation	Knowledge is created/acquired through meetings of self study teams and through peer review panels
Dedicated Resources	Yes	<ul style="list-style-type: none"> • Appointment of a full time project manager for DA1. • Establishment of a project office for duration of DA1. • Evidence of additional administrative resources being provided for PR1.
Fusion	Yes	<ul style="list-style-type: none"> • PR1 self study groups were department-based initially but there is evidence of cross-department teams being established prior to peer review panel. • Cross-functional self study teams established in DA1 for reviews of Institute research, management and operations. • Internal peer reviews facilitated cross functional fusion. • External peer review panels brought people with different perspectives into organisation.
Adaptation to changing environment	Yes	<ul style="list-style-type: none"> • Evidence of using external environment requirements to bring about change internally. • Both self study programs were required by an external agency (HETAC) to maintain accreditation status of courses.
Knowledge networking	No	<ul style="list-style-type: none"> • The need for an 'environmental scanning' role was identified in DA1 but not implemented. • A pan-Institute Quality Council was established to integrate academic and non-academic areas (arising from recommendation made in DA1).

Table 2 Knowledge creation and acquisition strategies employed in self study model

It can be seen from the above that the self study with peer review model contains the majority of the elements of strategies and mechanisms needed for knowledge acquisition and creation. Self study is predominantly based on a personalisation strategy using both internal and external sources of knowledge (Hansen et al. 1999). It is based on exploration - the creation of new knowledge about existing activities (Zack 1999). Its biggest strength is bringing together people with different perspectives to solve problems. Adaptation to the environment, through meeting the needs of external bodies, can often be the driving force behind it. It can be supported by the establishment of dedicated resources. Evidence of the implementation of all of these were found in the PR1 and DA1 programs in IT Tralee.

8 HOW IS KNOWLEDGE CAPTURED AND STORED?

In relation to a knowledge capture and storage strategy the main questions are (i) what does the institution need to know (ii) what does it actually know and (iii) where is it stored. Staples *et al* note that the literature pertaining to knowledge capture and storage relate to either individual, organizational or information technology issues (Staples et al. 2000).

It was argued earlier that a personalisation strategy predominates in the self study model and as a consequence the individual or department team is a key location for the tacit knowledge of an institution. This type of knowledge is socially constructed and is a product of experience. It does not lend itself to codification or ready capture. Staples *et al* suggest that institutions must consider their employees as an important resource in this regard and must devise mechanisms by which to capture this knowledge (Staples et al. 2000). This is compounded in higher education given that the workforce is largely comprised of specialists in their field. The complexity of the work of an academic is such that it requires considerable autonomous professional judgment but it is not so complex as to require teams of specialists to complete it. Unless something new is being developed there is generally no operational reason for academics to come together to work as a team and/or share knowledge. The complex and specialised nature of the work involved means that codification of knowledge terms is also difficult. There is a difficulty in capturing this knowledge is that it may also be considered proprietary by the employee. At the simplest level module syllabi are updated as part of the programmatic review process providing an opportunity to codify an academics knowledge in this regard. Self study also provides a forum where individual academics can come together as a team to review past activities and plan for the future thereby maximizing ownership of the process. Academics also participate in the defence of this work as part of the peer review process. One informant noted for example

“(without self study)...everything just stagnates, there’s no fresh thinking ...all that outside knowledge that has been picked up, all feed into the sharing of that

knowledge...all those little bits come to formulate the whole and that is the ideal thing”

Another informant noted that it provides an opportunity for breaking down functional silos

“The self study arena is one of the biggest ones that allows you to sit down and have a dialog across grades of staff and looking at starting to break down barriers and to look at and agree on common areas so I think the self study process is massively important...Again, it requires a level of trust but its also a good process in terms of developing trust”

Organisational issues centre on the formal and informal structures where organisational knowledge can be captured and stored. Key factors in the effectiveness of this include the size, culture and importance of knowledge to the organisation. This knowledge can be captured more readily than tacit knowledge in organisational processes, documents and procedures (e.g. proceedings of Academic Councils, self-evaluation reports and quality assurance manuals). The issue here is what and how much to capture. For the self study programs in ITT detailed guidelines were published by HETAC outlining the scope of the review(HETAC 2002, HETAC 2004). As part of the Delegated Authority self study process for example ITT had to submit its quality assurance procedures to HETAC for review and approval by an international panel. Similarly for Delegated Authority there were guidelines and criteria issued by HETAC defining the scope of the self-evaluation. Both documents provided parameters within which the self study review could take place thereby defining the scope of the knowledge to be captured. The HETAC guidelines for the Delegated Authority process for example required a comprehensive review of all operations in the Institute to include

- governance, management and planning processes
- quality assurance processes
- educational and training programmes
- research activities

- support services and others
- conditions attached to Delegated Authority & Qualifications Act.

Within the DA1 process template reports were used across 20 academic and central services departments to capture knowledge from each department in a consistent way.

There is a cost-effectiveness trade-off in terms of the level of resources invested to capture knowledge versus the importance of the knowledge to the organisation. There is also a danger that institutions will focus on what knowledge is easiest to capture as opposed to what is needed to support critical decision making processes. The lack of objective and universally accepted performance measures in the higher education (Davies 2004:13) leads to difficulties with knowledge capture and storage also. James notes that the appropriate management of organisational knowledge is a significant factor in whether an Institution achieves its strategic goals and objectives, and that although Institutions have never has as much information available to them regarding their performance, their ability to use it effectively is debatable (James 2000).

Characteristic	Self Study with Peer Review	Evidence found in PR1 and DA1
Individual	Individuals / organisational memory	Individuals knowledge captured through participation in departmental review and planning processes including effectiveness of teaching and research work Update of module syllabi through course review process Involvement of staff in non-teaching aspects of self study (e.g. lecturers involved in industrial feedback etc)
Organisation	Documents Procedures Processes	Self study reports Peer review panel reports Proceedings of meetings Departmental strategic plans Quality Assurance Manual Feedback systems (student, industry, graduate feedback)
Information Technology	Performance Indicator tables	Self-evaluation report outlines five year trends and indicators relating to applications, enrolments, registration, retention, throughput from Institutes MIS system.

Table 3 Knowledge capture and storage strategies employed in self study model

Self study provides one of the few forums by which the tacit knowledge of an individual academic can be captured. Organisational knowledge was stored primarily through self study reports, peer review panel reports and quality assurance procedures. Guidelines established in

advance by the external accreditation body helped define the scope of the knowledge capture required.

9. HOW IS KNOWLEDGE DIFFUSED AND TRANSFERRED?

Knowledge transfer and diffusion has two aspects (i) between organisations and departments and (ii) between individuals. This involves a number of stages from acquisition, communication, assimilation and application. The key issue is how new knowledge, once acquired, communicated and assimilated, brings about change in the individual or the organization. At organizational level higher education has a reputation of being notoriously resistant to change as espoused in the following cliché *“Trying to change a university is like trying to move a graveyard – you don’t get any help from the people within”* (Author unknown). An individual’s willingness to share knowledge, receive and use knowledge are the main considerations. As discussed earlier the nature of the work of the academic who can exercise considerable operating autonomy can be a powerful force to resist change. Mintzberg notes that in these professional bureaucracies ‘change seeps, not sweeps in’. This suggests that the more incremental approach of self study rather than a strategic planning process is a better approach. The culture in professional organisations does not lend itself to creative or innovative thinking (Mintzberg 1996). He notes however that although major shifts in the strategy of a professional organisation are difficult to achieve, at a narrower level within each discipline change is ubiquitous and minor changes are constantly being made. This suggests that an incremental planning approach is more suited to this environment. Boyle and Fleming re-iterate this in the context of the Irish public sector (Boyle and Flemming 2000:x). An important consideration, especially in research-intensive universities, is that the closest peer of an academic may not be in the same department or Institute, further distancing themselves from institutional mission and change initiatives.

In earlier work Lillis established that the PR1 and DA1 programs were effective in leading to improvements in institutional performance in the substantial majority of their objectives and peer review recommendations were completed. For example in the PR1 program 66% of the recommendations made by the peer review panel and 71% of the objectives of the PR1 program were completed. She also established that the self study programs led to other improvements such as building shared vision amongst staff, providing opportunities to review activities and consult with stakeholders. What was particularly striking was that *all* n=17 informants perceived the self study programs to be effective. By comparison there were much more mixed reactions to a strategic planning program which ran in parallel in ITT during the same timeframe for example (Lillis 2006a). This suggests that self study has the potential to be a good implementation vehicle for change in the academic heartland.

Whilst this has been identified as an area for further research the author believes that the effectiveness of the self study program can be attributed to two things. At individual level, while academics have considerable operating autonomy within their own domain of expertise acceptance by their peers remains a strong moderating force which the self study with peer review capitalizes on to good effect.

From an organizational perspective the explicit link between undertaking a self study process and the accreditation status of programmes of study is also a major driving force. Davies notes that many HEIs would not have moved towards a strategic or quality culture without an external stimulus of some kind and he explores the impact of the external requirements Institutes must meet and their resultant impact on the quality culture (Davies 2004).

10. HOW CAN SELF STUDY AS A KNOWLEDGE MANAGEMENT TOOL BE IMPROVED?

The author sees three obvious ways in which the self study with peer review model can be improved as a tool for knowledge management in higher education. There is scope to include a formal review of the implementation of the recommendations arising from the self study programs. In her study of the effectiveness of PR1 and DA1 in leading to improvements she noted a lack of follow through on the outcomes of the programs and points to the need for a fifth component to the self study model which is an ongoing review of implementation (Lillis 2006a). For example while HETAC's procedure for Programmatic Review makes reference to the Academic Council having a monitoring role in relation to implementing the outcomes of the Programmatic Review there was no evidence of this happening.

The second area of improvement relates to the use of performance measures. Higher education traditionally is somewhat skeptical of performance indicators however indicators can be useful supports to decision making or can illuminate areas of the organization that need attention. A major strength of the self study programme is the requirement to capture formal indicator trends which introduces a rigour and systemisation which might otherwise be absent. The biggest issue with self study is that it captures a point in time once every five years. There is a strong case to be made that in the changing environment which higher education finds itself that this period of time is too long (e.g. feedback from industry on the relevance of programmes once every five years). Aspects of the self study model could be done on a smaller scale on an annual basis by integrating it into normal processes (e.g. capture industry, graduate and student feedback annually). Some evidence of this was found in the programs being studied (e.g. capturing industrial feedback annually through visits to students on work placements). This would improve the knowledge acquisition and creation

strategies by providing ongoing feedback which could be reviewed annually. An additional advantage is that the work involved in the quinquennial exercise is reduced. A smaller scale annual review would also provide structures and processes whereby departmental and cross-functional teams could be brought together for a common purpose on a regular basis, something which is critical for knowledge creation and dissemination in the organisational culture of higher education.

Finally a formal environmental scanning role was identified as part of one of the self study programs but not subsequently implemented in the Institute. This intention of this role was to monitor changes in the environment of the Institute and disseminate these to the relevant parties within the Institute. These might include e.g. publications of national reports of relevance to the Institute, calls for funding proposals, newspaper articles, initiatives by competitors HEIs. Such a role would increase the effectiveness of the knowledge acquisition and knowledge transfer capabilities of the organization.

11. FINDINGS, CONCLUSIONS & SUGGESTIONS FOR FURTHER RESEARCH

Three key questions in relation to the acquisition, storage and dissemination of knowledge in a higher education institute were considered in this paper. The effectiveness of self study with peer review as a knowledge management tool was considered with reference to an accepted model from the literature. The actual implementation of two self study programs in one higher education was considered and it was concluded that self study with peer review contains the majority of features required of a knowledge management tool. Mechanisms by which it could be improved were considered which included the incorporation of appropriate performance indicators, undertaking elements of the self study process on an annual basis and the incorporation of a formal and ongoing environmental scanning role. There is ample scope for further research in this area as there is a general paucity of studies relating to the effectiveness of management tools in higher education, not

least of which is knowledge management. In conclusion the self study model contains enough elements of a knowledge management model to serve the needs of higher education if it is recognised as such. There is no need to imitate a corporate sector model and no absurdity of conduct is therefore necessary .

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